

DDF4620HDV-DN

Hybrid HD Dome Camera, 1.3-Megapixel, 720p/60, SD (PAL/NTSC), H.264, Day/Night (ICR), Low-Light, Wide Dynamic Range (WDR), Remote Back Focus Control, PoE (Class 0), Vandal-resistant (IK10)



The **DDF4620HDV-DN** is a **hybrid Wide Dynamic Range (WDR) HD camera** built into a **vandal-resistant (IK10) dome enclosure**.

The camera provides **real-time HD video (720p/60)** using the **H.264** codec, currently, the most advanced standard for **high-efficiency video compression**, and supports **resolutions up to 1.3-megapixel**.

In addition to **HD video over IP**, the hybrid camera provides for a simultaneous **analogue SD (PAL/NTSC) video output via BNC (CVBS)**.

The camera is characterized by its **Wide Dynamic Range (WDR)** and allows you to capture images with highest colour fidelity and superb detail reproduction even in scenes with a wide range of contrast and strong backlighting.

The **excellent low-light performance** also provides for clear and low noise images even in low light conditions.

Besides a comprehensive set of automatic and manual image optimization functions and many other setting options, it features automatic **Day/Night** operation supported by integrated **ambient light sensing** and a **removable IR cut filter (ICR¹⁾)** in order to meet even the most demanding of surveillance conditions.

The built-in **Remote Back Focus Control** technology allows for a **precise and easy remote focusing over the network**.

At a resolution of 720p, the **Digital Image Shift²⁾** function additionally provides for a subsequent **digital fine alignment of the image section**.

Depending on the requirements, the camera can be conventionally supplied with 12V DC or conveniently operated via **Power over Ethernet** (PoE Class 0, IEEE 802.3af) which allows for an easy, quick and cost-effective cabling and commissioning.

Features

- 1/3" 1.3-megapixel CMOS image sensor
- Pure Digital Signal Processing
- Hybrid HD camera – HD video over IP (Ethernet, RJ45) and analogue SD (PAL/NTSC) video output via BNC (CVBS)
- Real-time HD video (720p/60)
- Wide Dynamic Range (WDR)
- Automatic Day/Night switching using ambient light sensing and ICR¹⁾ function (switching threshold level adjustable)
- Excellent low-light performance
- Remote Back Focus Control
- Resolution video over IP: SD (4CIF PAL/NTSC), HD (720p, SXGA-)
- Resolution analogue video output: SD (4CIF PAL/NTSC)
- Video compression: H.264, MJPEG
- Frame rate up to 60fps (ideally suited for casino applications)
- Simultaneous Dual- or Tri-Streaming
- Manual White Balance (MWB)
- Automatic White Balance (ATW, One-Push AWB)
- Automatic Gain Control (AGC)
- Automatic Electronic Shutter (AES)
- Comprehensive set of image optimization functions like brightness, contrast, saturation and sharpness
- Digital Noise Reduction (DNR)
- Privacy Zone Masking (hiding/masking of protected areas)
- Three different exposure metering modes: average metering (light information from entire scene), centre-weighted average metering and spot metering
- Flip function (horizontal, vertical or both)
- Digital Image Shift²⁾
- Motion detection³⁾ with selectable sensitivity
- Alarm notification via DaVid Protocol³⁾, e-mail and FTP image upload
- EdgeStorage for Emergency Recording with SmartBackfill⁴⁾
- Local storage expansion with microSDHC card (Class 10)
- Audio OUT⁵⁾ / Microphone IN⁵⁾
- Voltage supply with 12V DC or via PoE (Class 0, IEEE 802.3af)
- Low power consumption
- 3-axis adjustment
- Two available mounting variants: in-ceiling mount (IM) or surface mount (SM)
- Available with different lens types
- Compact vandal-resistant (IK10) housing
- IP67 (surface mount variant)
- ONVIF Profile S compliance for easy integration into 3rd party systems
- DIN EN 50130-4 compliant

1) ICR = IR Cut Filter Removable

2) Digital Image Shift = Provides digital fine alignment of the image section (only applicable at 720p, vertical alignment by 120 pixels up or down)

3) Function in preparation

4) Note the handout "Edge Storage & SmartBackfill".

5) Audio IN/OUT Y-Cable Connector FGA-30 required (optionally available)

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Variants/Options

Variants	
004489.403	DDF4620HDV-DN-IM Hybrid HD dome camera, 1.3-megapixel, 720p/60, SD (PAL/NTSC), H.264, Day/Night (ICR), Low-Light, WDR, Remote Back Focus Control, PoE (Class 0), vandal-resistant (IK10), in-ceiling mount variant, F1.8 / 1.8–3 mm
004490.403	DDF4620HDV-DN-SM Hybrid HD dome camera, 1.3-megapixel, 720p/60, SD (PAL/NTSC), H.264, Day/Night (ICR), Low-Light, WDR, Remote Back Focus Control, PoE (Class 0), vandal-resistant (IK10), surface mount variant, F1.8 / 1.8–3 mm
004489.404	DDF4620HDV-DN-IM Hybrid HD dome camera, 1.3-megapixel, 720p/60, SD (PAL/NTSC), H.264, Day/Night (ICR), Low-Light, WDR, Remote Back Focus Control, PoE (Class 0), vandal-resistant (IK10), in-ceiling mount variant, F1.5 / 9–40 mm
004490.404	DDF4620HDV-DN-SM Hybrid HD dome camera, 1.3-megapixel, 720p/60, SD (PAL/NTSC), H.264, Day/Night (ICR), Low-Light, WDR, Remote Back Focus Control, PoE (Class 0), vandal-resistant (IK10), surface mount variant, F1.5 / 9–40 mm
004489.405	DDF4620HDV-DN-IM Hybrid HD dome camera, 1.3-megapixel, 720p/60, SD (PAL/NTSC), H.264, Day/Night (ICR), Low-Light, WDR, Remote Back Focus Control, PoE (Class 0), vandal-resistant (IK10), in-ceiling mount variant, F1.8 / 3.9–10 mm
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Options	
000428	Design Colours IM Cover Ring Cover ring for in-ceiling mount variant according to RAL or Pantone colour chart
001044	Tinted Bubble For in-ceiling and surface mount variant, 4.5"
001431	EvC-1 High-Speed Ethernet data transmission via coaxial cable
001678	Power Supply Unit (110–240 V AC -> 12 V DC) Universal power supply, 110–240 V AC to 12 V DC, 850 mA, plug adapter EU/UK/US/AUS
003694	Audio IN/OUT Y-Cable Connector FGA-30 3.5 mm stereo plug to 2× RCA jack incl. galvanic isolation

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Specifications

Sensor

Type	1/3" 1.3-megapixel CMOS image sensor
Signal processing	Pure Digital Signal Processing
Image capture	Progressive Scan
Minimum illumination	0.06 lux (F1.0, 50 IRE)
Dynamic range	> 115 dB ⁶⁾
Signal-to-noise ratio (SNR _{MAX})	43.9 dB

Functions

Hybrid Video	On, Off
WDR (Wide Dynamic Range) mode	Automatic, On, Off
Day/Night switching	Yes, using ambient light sensing and ICR ⁷⁾ function (switching threshold level adjustable)
B/W (black-and-white) mode	Automatic (in Night mode or at low light) ⁸⁾ , On, Off
Automatic Electronic Shutter (AES)	1/4(5)–1/10000 s
Slow Shutter Limit	1/4(5)–1/100(120) s
Digital Noise Reduction (DNR)	Yes
Automatic Exposure (AE) Presets	Universal, Indoor, Fluorescent, Casino
Exposure metering mode	Average metering (light information from entire scene), centre-weighted average metering, spot metering
Brightness adjustment	Automatic (ALC), Manual
Gain control	Automatic (AGC)
White balance	MWB (Manual): 2500 K–6500 K, ATW (Auto Tracking White Balance), One-Push AWB (Automatic White Balance)
Privacy Zone Masking	Yes (max. 40% of the entire image)
Flip function	Horizontal, vertical or both
Remote Back Focus Control	Yes (for easy remote focusing over the network during installation and maintenance)
Digital Image Shift ⁹⁾	Yes
Motion detection ¹⁰⁾ (VMD)	With selectable sensitivity (5 levels)
Alarm notification	Via DaVid Protocol (Dallmeier Video Protocol) to PGuard advance ¹⁰⁾ , e-mail, FTP image upload
Configuration	Via web browser
Languages	German, English, Spanish, French, Italian

Lens

Mount	CS-mount
Auto iris control	Compatible with DC drive auto iris lenses
Type	See "Lens Types" on page 6.

Format and Encoding

Video standard	SDTV (PAL/NTSC) HDTV (SMPTE 296M)
Resolution video over IP	SXGA- (1280 × 960) 720p (1280 × 720) 4CIF (PAL: 704 × 576, NTSC: 704 × 480) VGA (640 × 352 / 640 × 480) QCIF (192 × 128)
Resolution analogue SD video	4CIF (PAL: 704 × 576, NTSC: 704 × 480)
Aspect ratio video over IP	4:3 (4CIF, SXGA-) 16:9 (720p)
Aspect ratio analogue SD video	Scale Analog Output -> On: 4:3 (if Encoder 1 resolution: 4CIF, SXGA-) 16:9 Letterbox (if Encoder 1 resolution: 720p)
Video compression	Scale Analog Output -> Off: 4:3 (cropped from centre sensor area)
Audio compression	H.264, MJPEG
Frame rate	G.711
Video bit rate	See tables "Maximum Frame Rates" on page 5.
Audio bit rate	0.25–10 Mbps, CBR (constant bit rate) or VBR (variable bit rate)
Video streaming	64 kbps Simultaneous Dual- or Tri-Streaming ¹¹⁾ (Note the tables "Available Encoder Combinations" on page 5.)
Transfer format	Progressive (full image)
Live streaming transmission method	Unicast, Multicast

6) According to the sensor manufacturer's specifications

7) ICR = IR Cut Filter Removable

8) Without colour information, or rather in black-and-white mode, the image quality in low light conditions will be much clearer (e.g. less colour noise).

9) Digital Image Shift = Provides digital fine alignment of the image section (only applicable at 720p, vertical alignment by 120 pixels up or down)

10) Function in preparation

11) Only available with Hybrid Video -> Off

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Specifications (Continuation)

Protocols

Ethernet protocols IPv4, TCP, UDP, ARP, ICMP, DHCP, NTP, HTTP, RTSP, IGMP V2, FTP, SMTP, RTP, RTCP
SNMP support Yes

Connections

Video output (analogue) 1× BNC (CVBS, 1.0V_{p-p}, 75 ohm)
Audio OUT (Mono) / Microphone IN (Mono) 1× 3.5 mm phone jack (for stereo plug)¹²⁾
Mic IN: max. 63 mV (RMS), input resistance 10 kOhm, internal gain 20 dB
Ethernet 1× RJ45 female connector, 10BASE-T-/100BASE-TX PoE
Power IN 12V DC (Weidmüller male connector SL 3.50/02/90G)

Miscellaneous

Ambient light sensor Integrated
Local storage 50MB RAM storage
Storage expansion microSDHC card (Class 10 or higher) with up to 32 GB
Programming interface Open platform for integration into 3rd party systems using API and ActiveX*
ONVIF compliance Profile S

Electrical Data

Voltage supply 12V DC ±10% or PoE (Class 0)
PoE standard IEEE 802.3af
Power consumption Max 4.5W

Mechanical Data

Dimensions In-ceiling mount variant: approx. Ø 170 × H 135 mm (Ø 6.7 × H 5.3 inches)
Surface mount variant: approx. Ø 153 × H 135 mm (Ø 6.0 × H 5.3 inches)
Weight In-ceiling mount variant: approx. 1200 g (2.6 lb)
Surface mount variant: approx. 1100 g (2.4 lb)
Adjustment 3-axis
Colour White (standard variant)
Bubble Clear (with black inner liner for discrete surveillance)
Vandal-resistant Yes
IK protection IK10 protection against external mechanical impacts (up to 20 joules)
IP rating IP67 (surface mount variant only)

Environmental Conditions

Operating temperature In-ceiling mount variant (indoor): -20°C to +40°C (-4°F to 104°F)
Surface mount variant (in- and outdoor): -20°C to +50°C (-4°F to 122°F)
Relative humidity 0%–90% RH, non-condensing

Approvals/Certifications

Type CE, FCC, ACA, UVV "Kassen" (DGUV Test), UL, DIN EN 50130-4 compliant

12) Audio IN/OUT Y-Cable Connector FGA-30 required (optionally available)

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Available Encoder Combinations

Encoder 1 (H.264)

Encoder 1	Encoder 2	Encoder 3**
H.264	H.264/MJPEG	H.264
SXGA- / - 30 fps	VGA (640 × 480) / - 15 fps	-
720p / - 60 fps	-	-
720p / - 30 fps	VGA (640 × 352) / - 30 fps	-
720p / - 30 fps	VGA (640 × 352) / - 15 fps	QCIF (192 × 128) / - 15 fps
4CIF / - 30 fps	4CIF / - 30 fps	-

Encoder 1 (MJPEG)

Encoder 1	Encoder 2	Encoder 3**
MJPEG	H.264/MJPEG	H.264
SXGA- / - 30 fps	-	-
720p / - 60 fps	-	-
720p / - 30 fps	-	-
4CIF / - 30 fps	-	-

** only available if Encoder 2 -> MJPEG

Maximum Frame Rates

Hybrid Video Off

Resolution	Encoder 1	Analogue Output
SXGA-	25/30 fps	12.5/15 fps
720p	25/30 fps	25/30 fps
720p	50/60 fps	- ***
4CIF	25/30 fps	25/30 fps

Hybrid Video ON

Resolution	Encoder 1	Analogue Output
SXGA-	12.5/15 fps	25/30 fps
720p	25/30 fps	25/30 fps
720p	50/60 fps	- ***
4CIF	25/30 fps	25/30 fps

*** At 720p/50 (PAL) or 720p/60 (NTSC), no analogue video output and no encoding by Encoder 2 and Encoder 3 is possible.

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Lens Types

Lens F1.8 / 3.9 – 10 mm	
Type	5-Megapixel varifocal lens
Format	1/2"
Mount	CS-mount
Focal length	3.9 – 10 mm
Iris range	F1.8 – 360
Iris control	DC auto iris
Zoom	Manual
Focus	Manual
MOD (Minimum Object Distance)	0.3 m
IR corrected	Yes
Available angles of view ¹³⁾ (H × V) at wide end	approx. 56° × 41° with 4CIF, SXGA– approx. 56° × 30° with 720p
Available angles of view ¹³⁾ (H × V) at tele end	approx. 26° × 19° with 4CIF, SXGA– approx. 26° × 14° with 720p

Ultra Wide-Angle Lens F1.8 / 1.8 – 3 mm	
Type	5-Megapixel varifocal lens
Format	1/2.5"
Mount	CS-mount
Focal length	1.8 – 3 mm
Iris range	F1.8 – Closed
Iris control	DC auto iris
Zoom	Manual
Focus	Manual
MOD (Minimum Object Distance)	0.5 m
IR corrected	Yes
Available angles of view ¹³⁾ (H × V) at wide end	approx. 99° × 81° with 4CIF, SXGA– approx. 99° × 65° with 720p
Available angles of view ¹³⁾ (H × V) at tele end	approx. 75° × 60° with 4CIF, SXGA– approx. 75° × 46° with 720p

Telephoto Lens F1.5 / 9 – 40 mm	
Type	5-Megapixel varifocal lens
Format	1/2.5"
Mount	CS-mount
Focal length	9 – 40 mm
Iris range	F1.5 – Closed
Iris control	DC auto iris
Zoom	Manual
Focus	Manual
MOD (Minimum Object Distance)	2.0 m
IR corrected	Yes
Available angles of view ¹³⁾ (H × V) at wide end	approx. 29° × 21° with 4CIF, SXGA– approx. 29° × 16° with 720p
Available angles of view ¹³⁾ (H × V) at tele end	approx. 7.2° × 5.3° with 4CIF, SXGA– approx. 7.2° × 3.8° with 720p

¹³⁾ All specifications ±5%. Minor deviations with lenses may be a result of manufacturing tolerances and do not constitute a defect.

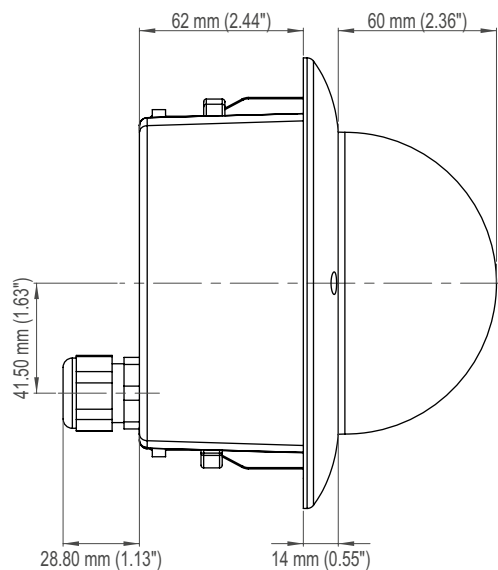
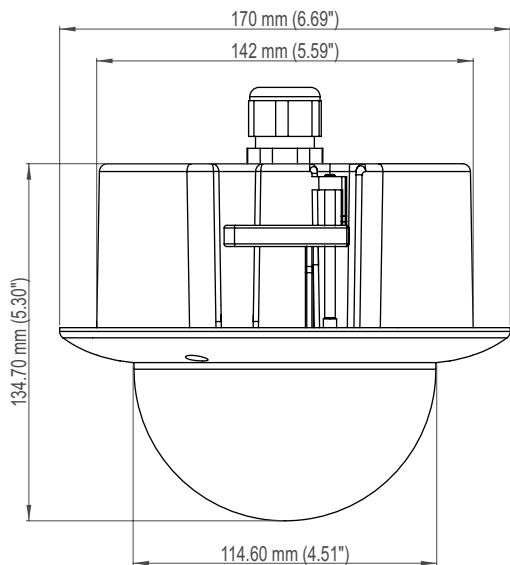
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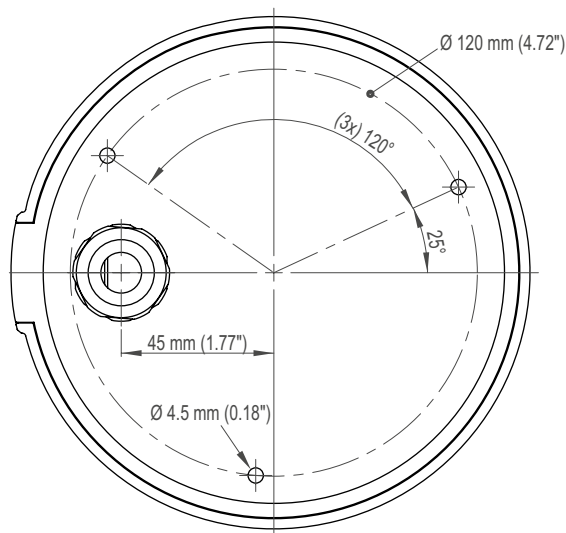
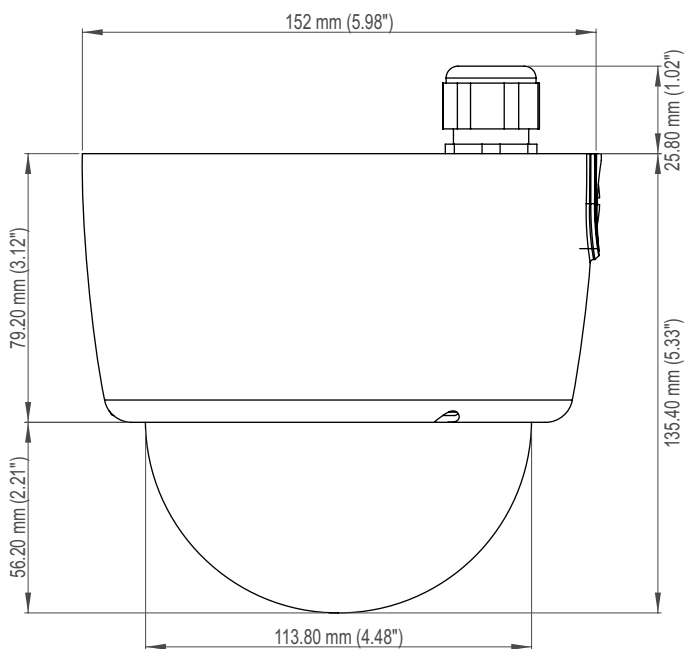
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Dimensions



In-ceiling mount variant



Surface mount variant